

University of Alberta
CMPUT 304 Algorithms II
Sections A1 and EA1
Fall 2024

instructor	Prof. Hayward	https://webdocs.cs.ualberta.ca/~hayward
office	Ath 301	
e-mail	lastname@ualberta.ca	
webpage	https://webdocs.cs.ualberta.ca/~hayward/304/jem/304.html	
office hours	after each lecture, outside the lecture hall	
lectures	see beartracks for room and time	

course content

UAlberta calendar description The second course of a two-course sequence on algorithm design. Emphasis on principles of algorithm design. Categories of algorithms such as divide-and-conquer, greedy algorithms, dynamic programming; analysis of algorithms; limits of algorithm design; NP-completeness; heuristic algorithms.

prerequisites CMPUT 204; one of STAT 141, 151, 235 or 265 or SCI 151; one of MATH 225, 227, 228; or consent of the instructor.

course objectives and expected learning outcomes to become familiar with the algorithms covered and, for each algorithm, to be able to trace sample executions, reason about worstcase runtime, reason about correctness, and discuss possible improvements.

course schedule see course webpage

learning resources see course webpage

academic success centre

<https://www.ualberta.ca/current-students/academic-success-centre/index.html> The ASC provides professional academic support to help students strengthen their academic skills and achieve their academic goals. Individual advising, appointments, and group workshops are available year round in the areas of Accessibility, Communication, Learning, and Writing Resources. Modest fees apply for some services.

faculty of science student services

<https://www.ualberta.ca/en/science/student-services/index.html> The FSSS office is located on the main floor of the Centennial Centre for Interdisciplinary Sciences (CCIS). The office can assist with the planning of your academics

<https://www.ualberta.ca/en/science/student-services/your-academics/index.html>

and provide info on student life and engagement,

<https://www.ualberta.ca/en/science/student-services/student-life-engagement/index.html> internship and careers,

<https://www.ualberta.ca/en/science/student-services/internship-careers/index.html> and study abroad opportunities.

<https://www.ualberta.ca/en/science/student-services/study-abroad/index.html>

grade evaluation

course work	date	weight
30-min in-seminar quizzes*	Wednesdays Sep 18, 25 Oct 2, 9, 23, 30 Nov 6, 20	60%
3-hour final exam	set by registrar	40%
deferred exam (if approved)	10:00am Jan 6 2025 CSC 333	40%

(*) If some unforeseen event (illness, jury duty, labor dispute, etc.) prevents the instructor from preparing a quiz, then the weight of that quiz will be moved to the weight of the final exam.

final grades Course percentage scores will be partitioned into letter grades by finding appropriate gaps among the scores. Grades are not curved: there is no target distribution of final grades. Historically, this instructor's break points have been close to that shown below, but this course's break points might differ. Break points are not published.

A+ 95 A 90 A- 85 B+ 80 B 75 B- 70 C+ 65 C 60 C- 55 D+ 50 D 45

Grades are unofficial until approved by the Department and/or Faculty offering the course.

re-evaluation of term work Any questions concerning marked work must be brought to the attention of the marker within one week of the work being marked, otherwise the marks will not be changed.

checking for cheating We might at some point ask you to explain your answers on a quiz or exam. If you cannot adequately explain your answer, we might deduct some or all marks for that work and/or report the case for further investigation.

re-examination A student who writes the final examination and fails the course may apply for a re-examination. Re-examinations are rarely granted in the Faculty of Science. Re-examinations are governed by university-wide Academic Regulations

<https://calendar.ualberta.ca/content.php?catoid=39&navoid=12216#reexaminations>
and Faculty of Science Academic Regulations.

<https://calendar.ualberta.ca/content.php?catoid=39&navoid=12231#reexamination>

Misrepresentation of Facts to gain a re-examination is a serious breach of the Code of Student Behaviour.

past or representative evaluative material see course webpage

Policies for missed work

Missed Quiz or Exam Due to Non-medical Protected Grounds (e.g., religious beliefs)

When a quiz or final exam presents a conflict based on non-medical protected grounds,

<https://www.ualberta.ca/current-students/academic-success-centre/accessibility-resources/register/eligibility.html> students must apply to the Academic Success Centre for accommodations via their Register for Accommodations website:

<https://www.ualberta.ca/current-students/academic-success-centre/accessibility-resources/register/index.html>

Students can review their eligibility and choose the application process specific for Accommodations Based on Non-medical Protected Grounds. It is imperative that students review the dates of all course assessments upon receipt of the course syllabus, and apply AS SOON AS POSSIBLE to ensure the timely application of the accommodation. Students who apply later in the term may experience unavoidable delays in the processing of the application, which can affect the accommodation.

Missed quizzes: You can miss any quiz for any reason. The weight of any missed quiz will be moved to the weight of the final exam.

Deferred final examination A student who cannot write the final examination due to incapacitating illness, severe domestic affliction or other compelling reasons can apply for a deferred final examination. Such an application must be made to the student's Faculty office within two working days of the missed examination and must be supported by appropriate documentation or a Statutory Declaration (see calendar on Attendance).

<https://calendar.ualberta.ca/content.php?catoid=39&navoid=12216#attendance>

Deferred examinations are a privilege and not a right; there is no guarantee that a deferred examination will be granted. The Faculty may deny deferral requests in cases where less than 50% of term work has been completed, **i.e. if you have missed more than 50% of the quizzes**. Misrepresentation of facts to gain a deferred examination is a serious breach of the Code of Student Behaviour.

Student responsibilities

The University of Alberta is committed to the highest standards of academic integrity and honesty, as well as maintaining a learning environment that fosters the safety, security, and the inherent dignity of each member of the community, ensuring students conduct themselves accordingly. Students are expected to be familiar with the standards of academic honesty and appropriate student conduct, and to uphold the policies of the University in this respect. Students are particularly urged to familiarize themselves with the provisions of the Student Academic Integrity Policy

<https://policiesonline.ualberta.ca/PoliciesProcedures/Pages/DispPol.aspx?PID=193&s=https://policiesonline.ualberta.ca/PoliciesProcedures/Pages/Academic.aspx>

and the Student Conduct Policy,

<https://policiesonline.ualberta.ca/PoliciesProcedures/Pages/DispPol.aspx?PID=190&s=https://policiesonline.ualberta.ca/PoliciesProcedures/Pages/Academic.aspx>

and avoid any behaviour that could potentially result in suspicions of academic misconduct (e.g., cheating, plagiarism, misrepresentation of facts, participation in an offence) and non-academic misconduct (e.g., discrimination, harassment, physical assault). Academic and non-academic misconduct are taken very seriously and can result in suspension or expulsion from the University.

All students are expected to consult the Academic Integrity website

for clarification on the various academic offences. All forms of academic dishonesty are unacceptable at the University. Unfamiliarity of the rules, procrastination or personal pressures are not acceptable excuses for committing an offence. Listen to your instructor, be a good person, ask for help when you need it, and do your own work – this will lead you toward a path to success. Any academic integrity concern in this course will be reported to the College of Natural and Applied Sciences. Suspected cases of non-academic misconduct will be reported to the Dean of Students. The College, the Faculty, and the Dean of Students are committed to student rights and responsibilities, and adhere to due process and administrative fairness, as outlined in the Student Academic Integrity Policy and the Student Conduct Policy. Please refer to the policy websites for details on inappropriate behaviours and possible sanctions.

<https://policiesonline.ualberta.ca/PoliciesProcedures/Pages/DispPol.aspx?PID=193&s=https://policiesonline.ualberta.ca/PoliciesProcedures/Pages/Academic.aspx>

<https://policiesonline.ualberta.ca/PoliciesProcedures/Pages/DispPol.aspx?PID=190&s=https://policiesonline.ualberta.ca/PoliciesProcedures/Pages/Academic.aspx>

The College of Natural and Applied Sciences (CNAS) has created an Academic Integrity for CNAS Students eClass site.

<https://eclass.srv.ualberta.ca/enrol/index.php?id=88399> Students can self enroll and review the various resources provided, including the importance of academic integrity, examples of academic misconduct & possible sanctions, and the academic misconduct & appeal process. They can also complete assessments to test their knowledge and earn a completion certificate.

”Integrity is doing the right thing, even when no one is watching.” – C.S. Lewis

Exam and quiz conduct

- Your student photo ID is required to verify your identity.
- You will not be allowed to begin a quiz/exam after it has been in progress for 30 minutes.
- You must remain in the quiz/exam room until at least 30 minutes has elapsed.
- Your cell phones must be turned off and stored in your bags.
- No calculators or computers of any kind are allowed in a quiz/exam: pencil/pen and eraser only.
- Please consider wearing a mask.

Cell phones

- Cell phones are to be turned off during lectures and seminars.

Students Eligible for Accessibility-Related Accommodations In accordance with the University of Alberta's Discrimination, Harassment, and Duty to Accommodate policy,

<https://policiesonline.ualberta.ca/PoliciesProcedures/Policies/Discrimination-Harassment-and-Duty-to-Accommodate.pdf>

accommodation support is available to eligible students who encounter limitations or restrictions to their ability to perform the daily activities necessary to pursue studies at a post-secondary level due to medical conditions and/or non-medical protected grounds. Accommodations are coordinated through the Academic Success Centre (see link above) and students can learn more about eligibility on the Register for Accommodations website (see link above).

It is recommended that students apply as early **as soon as possible** in order to ensure sufficient time to complete accommodation registration and coordination. Students are advised to review and adhere to published deadlines for accommodation approval and for specific accommodation requests (e.g., exam registration submission deadlines). Students who request accommodations less than a month in advance of the academic term for which they require accommodations may experience unavoidable delays or consequences in their academic programs, and may need to consider alternative academic schedules.

Recording and/or Distribution of Course Materials Audio or video recording, digital or otherwise, of lectures, labs, seminars or any other teaching environment by students is allowed only with the prior written consent of the instructor or as a part of an approved accommodation plan. Student or instructor content, digital or otherwise, created and/or used within the context of the course is to be used solely for personal study, and is not to be used or distributed for any other purpose without prior written consent from the content author(s).

Learning and Working Environment The Faculty of Science is committed to ensuring that all students, faculty and staff are able to work and study in an environment that is safe and free from discrimination, harassment, and violence of any kind. It does not tolerate behaviour that undermines that environment. This includes virtual environments and platforms.

If you are experiencing harassment, discrimination, fraud, theft or any other issue and would like to get confidential advice, please contact any of these campus services:

- Office of Safe Disclosure and Human Rights:

<https://www.ualberta.ca/provost/portfolio/office-of-safe-disclosure-human-rights.html>

A safe, neutral and confidential space to disclose concerns about how the University of Alberta policies, procedures or ethical standards are being applied. They provide strategic advice and referral on matters such as discrimination, harassment, duty to accommodate and wrong-doings. Disclosures can be made in person or online using the Online Reporting Tool.

https://ualberta-gme-advocate.symplcity.com/titleix_report/index.php/pid700773?

- University of Alberta Protective Services

<https://www.ualberta.ca/protective-services/index.html>

Peace officers dedicated to ensuring the safety and security of U of A campuses and community. Staff or students can contact UAPS to make a report if they feel unsafe, threatened, or targeted on campus or by another member of the university community.

- Office of the Student Ombuds

<https://www.ualberta.ca/current-students/ombuds/index.html>

A confidential and free service that strives to ensure that university processes related to students operate as fairly as possible. They offer information, advice, and support to students, faculty, and staff as they deal with academic, discipline, interpersonal, and financial issues related to student programs.

- Office of the Dean of Students

<https://www.ualberta.ca/dean-of-students/index.html>

They can assist students in navigating services to ensure they receive appropriate and timely resources. For students who are unsure of the support they may need, are concerned about how to access services on campus, or feel like they may need interim support while you wait to access a service, the Dean of Students office is here to help.

Feeling Stressed, Anxious, or Upset?

It's normal for us to have different mental health experiences throughout the year. Know that there are people who want to help. You can reach out to your friends and access a variety of supports available on and off campus at the Need Help Now webpage

<https://www.ualberta.ca/current-students/need-help-now.html>

or by calling the 24-hour Distress Line: 780-482-4357 (HELP).

Student Self-Care Guide

<https://drive.google.com/file/d/1t5fqgXCG369tt5hDxrzQuv1Tdy2W46RB/view>

This Self-Care Guide, originally designed by the Faculty of Native Studies, has broader application for use during students' learning. It provides some ideas and strategies to consider that can help navigate emotionally challenging or triggering material.

Policy about course outlines can be found in Course Requirements, Evaluations Procedures and Grading of the University Calendar. <https://calendar.ualberta.ca/content.php?catoid=39&navoid=12216#course-requirements>

Land Acknowledgement The University of Alberta respectfully acknowledges that we are situated on Treaty 6 territory, traditional lands of First Nations and Métis people.

To learn more about the significance of this land acknowledgement, please read this useful article and associated links to more information.

<https://toronto.citynews.ca/2022/06/24/what-are-land-acknowledgements-and-why-do-they-matter/>

Disclaimer Any errors in this syllabus are subject to change and will be announced in class.

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